

Claims

- [c1] 1.A lockable mounting apparatus for supporting structure relative to a support, said apparatus comprising:
a body adapted to be coupled to the support and operable to slidably receive the structure when coupled to the support,
said body being configured to generally prevent the structure received thereon from sliding relative to the body in a first plane but normally permitting the structure received thereon to slide relative to the body in a first direction,
said first direction being generally divergent relative to said first plane,
said body including an exposed surface extending generally parallel to said first plane when the body is coupled to the support and the structure is received on the body; and
a locking assembly including a locking mechanism that selectively prevents the structure received on the body from sliding relative to the body in the first direction,
said locking assembly further including an actuator in activating communication with the locking mechanism,
at least a portion of said actuator being positioned adja-

cent said exposed surface.

- [c2] 2.The apparatus as claimed in claim 1,
said body presenting a front surface and an oppositely
spaced back surface,
said front and back surfaces extending generally parallel
to each other and generally transverse relative to said
exposed surface,
said exposed surface extending between said front and
back surfaces.
- [c3] 3.The apparatus as claimed in claim 2,
said front and exposed surfaces presenting a generally
trapezoidal configurations.
- [c4] 4.The apparatus as claimed in claim 2,
said locking mechanism including a locking plate
shiftable coupled to said body and shiftable into and out
of a locking position wherein the plate is at least partially
spaced from said front surface to engage the structure to
thereby prevent the structure from sliding in the first di-
rection.
- [c5] 5.The apparatus as claimed in claim 4,
said body defining an internal chamber positioned be-
tween the front and back surfaces and being in commu-
nication with said locking plate.

- [c6] 6.The apparatus as claimed in claim 5,
said locking mechanism further including a pin element
supported in the chamber and operable to engage said
locking plate.
- [c7] 7.The apparatus as claimed in claim 6,
said actuator including a screw element in communica-
tion with the exposed surface and said internal chamber
and cooperating with the pin element to shift the locking
plate into and out of the locking position.
- [c8] 8.The apparatus as claimed in claim 4,
said locking plate being retractable into a recessed posi-
tion wherein the plate does not protrude out of the front
surface.
- [c9] 9.The apparatus as claimed in claim 8,
said locking plate being biased into the recessed posi-
tion.
- [c10] 10.A lockable mounting apparatus for securely mounting
a workpiece holding assembly to a fixed support, said
apparatus comprising:
a mount adapted to be coupled to the support and oper-
able to receive the workpiece holding assembly when
coupled to the support,
said mount presenting a body defining a back surface

that engages the support when the mount is coupled thereto and an oppositely spaced, generally planar front surface,
said body further defining an internal chamber presenting a normally open face;
a flexible plate shiftably coupled to the mount and shiftable between a flush position wherein the plate generally closes the open face and forms at least a portion of the planar front surface and a locking position wherein at least a portion of the plate is spaced from the front surface and spaced from the open face; and
a locking element operable to selectively shift the plate from the flush position into the locking position,
said locking element including at least a portion thereof that is received in the chamber and engages the plate.

[c11] 11.The apparatus as claimed in claim 10,
said plate being biased into the flush position.

[c12] 12.The apparatus as claimed in claim 11,
said plate being substantially formed of a spring metal.

[c13] 13.The apparatus as claimed in claim 10,
said body further defining a top surface extending between the front and back surfaces,
said body defining a screw-receiving aperture communicating the top surface with the internal chamber.

- [c14] 14.The apparatus as claimed in claim 13,
said locking element including an adjustable screw
threadably received in the aperture and operable to be
extended into the chamber.
- [c15] 15.The apparatus as claimed in claim 14,
said at least a portion of the locking element comprising
a pin.
- [c16] 16.The apparatus as claimed in claim 15,
said pin being disposed between the plate and the screw
when the plate is in the locking position.
- [c17] 17.The apparatus as claimed in claim 16,
said screw including a conical tip adjustably received
within the chamber and engaging the pin.
- [c18] 18.The apparatus as claimed in claim 10,
said front surface presenting a generally trapezoidal
configuration.
- [c19] 19.The apparatus as claimed in claim 18,
said body further defining a top surface extending be-
tween the front and back surfaces,
said top surface presenting a generally trapezoidal con-
figuration.
- [c20] 20.An apparatus for supporting a workpiece and com-

prising:

a mount adapted to be coupled to a support; and
a frame assembly removably coupled to said mount and adapted to movably support the workpiece,
said mount including a mount plate received between the frame assembly and the support when the mount is coupled to the support,
said frame assembly including a frame plate slidably received on said mount plate and normally slidable in a first direction when received on said mount plate,
said mount further including a locking assembly including at least one element shiftably supported relative to said mount plate,
said at least one element being selectably shiftable into and out of a locking position wherein said frame plate is prevented from sliding in said first direction.

[c21] 21.The apparatus as claimed in claim 20,
said first direction being generally vertical relative to the support when the mount is coupled to the support.

[c22] 22.The apparatus as claimed in claim 20,
said frame plate including blocks that dovetail with said mount plate,
said blocks and said mount plate being configured so that when the frame plate is slidably received on said mount plate, said frame plate is generally prevented

from shifting in a first plane.

[c23] 23.The apparatus as claimed in claim 22,
said first plane being generally perpendicular to said first
direction.

[c24] 24.The apparatus as claimed in claim 22,
said mount plate presenting a generally trapezoidal con-
figuration.

[c25] 25.The apparatus as claimed in claim 20,
said mount plate defining a back surface that engages
the support when the mount is coupled thereto and an
oppositely spaced, generally planar front surface
adapted to engage said frame plate,
said mount plate further defining an internal chamber
between said front and back surfaces.

[c26] 26.The apparatus as claimed in claim 25,
said at least one element comprising a flexible plate
shiftable coupled to the mount plate.

[c27] 27.The apparatus as claimed in claim 26,
said internal chamber presenting a normally open face,
said flexible plate generally closing said open face when
the flexible plate is out of the locking position and being
spaced from said open face when in the locking position.

[c28] 28. The apparatus as claimed in claim 20, said frame assembly including first and second arms, said first arm pivotal relative to the mount about a first axis of rotation, said second arm pivotal relative to the first arm about a second axis of rotation, the first and second rotational axes essentially lying in a common plane and intersecting to define a work zone at the region of intersection thereof.

[c29] 29. The apparatus as claimed in claim 28, said frame assembly including a workpiece-supporting tool assembly including structure for receiving and holding the workpiece, said second arm including an outboard portion spaced from said first arm and offset from said common plane, said outboard portion supporting a fixture for receiving said workpiece-supporting tool assembly, with said fixture and workpiece-supporting tool assembly being cooperatively oriented and configured so that a supported workpiece is located substantially at said work zone.

[c30] 30. The apparatus as claimed in claim 29, said workpiece-supporting tool assembly being shiftable by pivoting of said arms to selectively alter the orientation of said workpiece while maintaining the workpiece substantially within said work zone.